

I Claim As My Invention

1. A switching process for transmitting user data packets, comprising the steps of:

5 providing a signaling unit having at least two line units which can be connected to one another and which can be used to set up a connection for transmitting user data; transmitting the user data in data packets via network nodes of a network; terminating, via the line units, signaling toward a terminal device involved in the data transmission; and
10 passing on signaling messages, arriving at one of the line units for switching of the data packets, to another of the line units with the aid of internal signaling messages defined for the signaling unit.

2. A switching process for transmitting user data packets, comprising the steps of:

15 providing a signaling unit having at least two line units which can be used to set up a connection for transmitting user data; transmitting the user data in data packets via network nodes of a network; terminating, via the line units, signaling toward a terminal device involved in the data transmission in accordance with a signaling protocol for circuit-switched
20 transmission of user data; and
passing on signaling messages arriving at one of the line units for switching of the data packets to the other of the line units with the aid of internal signaling messages defined for the signaling unit.

25 3. A switching process for transmitting user data packets as claimed in claim 2, wherein the line units can be connected to each other.

4. A switching process for transmitting user data packets as claimed in claim 1, wherein the line units can be connected via a switching network which
30 transmits the internal signaling messages via one of channels, a bus system and a data network.

5. A switching process for transmitting user data packets as claimed in claim 1, further comprising the step of:

controlling the connection of the line units according to a connection destination.

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6. A switching process for transmitting user data packets as claimed in claim 1, further comprising the step of:

using at least one signaling message to transmit an information element, wherein the information element contains at least one of an address at which one of the terminal device and a network inter-working unit can receive data packets on the terminal device side, a port number which designates a receiving unit of one of the terminal device and the network inter-working unit, and a coding identification which designates a type of coding used sending data packets to one of the terminal device and the network inter-working unit.

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7. A switching process for transmitting user data packets as claimed in claim 1, further comprising the steps of:

using further line units for switching user data in a circuit-switched network; and

processing, via the further line units, at least similar internal signaling messages as the line units involved in setting up the connection for the transmission of user data in data packets.

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8. A switching process for transmitting user data packets as claimed in claim 1, wherein at least one of the line units involved in the connection set up operates toward the outside in accordance with an ISUP protocol.

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9. A switching process for transmitting user data packets as claimed in claim 1, wherein at least one of the line units involved in the connection set up operates toward the outside in accordance with a supplemented ISUP protocol, and the process further comprises the step of using at least one information element for transmitting at least one of an address at which one of the terminal device and a network inter-

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working unit in the packet-switched network can receive data packets, a port number which designates a receiving unit of one of the terminal device and the network inter-working unit, and a coding identification which designates a type of coding used when sending data packets to one of the terminal device and the network inter-working unit.

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10. A switching process for transmitting user data packets as claimed in claim1, wherein at least one of the line units involved in the connection set up terminates the signaling in accordance with a signaling protocol for a packet-transmitting data network.

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11. A switching process for transmitting user data packets as claimed in claim10, wherein the signaling protocol is a protocol for signaling with a terminal device, the protocol being one of an H.323 protocol, an SIP protocol, and an MGCP protocol.

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12. A switching process for transmitting user data packets as claimed in claim10, further comprising the steps of:

transmitting data packets, via the signaling protocol, on a lower protocol layer;
and,

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transmitting signaling messages, via the signaling protocol, originally defined for a circuit-switch transmission network on an upper protocol layer.

13. A switching process for transmitting user data packets as claimed in claim1, wherein at least one of the line units involved in the connection set up involves a control unit and a network inter-working unit in the switching operation, and wherein, in the network inter-working unit, after the connection set up, at least one event occurs between removing the user data of the connection from time slots and distributing the user data among data packets, and disassembling the user data of the connection from received data packets and passing the user data on in time slots.

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14. A switching process for transmitting user data packets as claimed in claim13, wherein the at least two line units involve different control units.

15. A switching process for transmitting user data packets as claimed in claim1, wherein one line unit contains at least two component units which exchange internal signaling messages with one another.

5 16. A switching process for transmitting user data packets as claimed in claim10, wherein the user data are passed on in one of a connection list mode by network nodes of the packet-transmitting network in accordance with an IP protocol, and a connection-oriented mode by the network nodes of the packet-transmitting network in accordance with the ATM protocol.

10 17. A switching signaling unit for transmitting user data packets, comprising:

at least two line units which are used to set up a connection for transmitting user data in data packets; and

15 at least one terminal device wherein the line units terminate signaling toward one of the terminal devices involved in the data transmission, and signaling messages arriving at one of the line units are passed on to the other of the line units with the aid of internal signaling messages defined for the signaling unit.

20 18. A switching center for a circuit-switched network, wherein the switching center contains a signaling unit for transmitting user data packets and comprises:

at least two line units which are used to set up a connection for transmitting user data in data packets; and

25 at least one terminal device wherein the line units terminate signaling toward one of the terminal devices involved in the data transmission, and signaling messages arriving at one of the line units are passed on to the other of the line units with the aid of internal signaling messages defined for the signaling unit.

30 19. A program having program commands which, when performed, effect a switching process for transmitting user data packets which includes the steps of:

providing a signaling unit having at least two line units which can be connected to one another and which can be used to set up a connection for transmitting user data;

transmitting the user data in data packets via network nodes of a network;

terminating, via the line units, signaling toward a terminal device involved in

5 the data transmission; and

passing on signaling messages, arriving at one of the line units for switching of the data packets, to another of the line units with the aid of internal signaling messages defined for the signaling unit.

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